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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09 784,358	02 15 2001	Gregory Donoho	LEX-0134-USA	2856

24231 7590 05 21 2003

LEXICON GENETICS INCORPORATED
8800 TECHNOLOGY FOREST PLACE
THE WOODLANDS, TX 77381-1160

EXAMINER

SNEDDEN, SHERIDAN

ART UNIT	PAPER NUMBER
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1653

DATE MAILED: 05 21 2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/784,358

Applicant(s)

DONOHO ET AL.

Examiner

Sheridan K Snedden

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) none is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, and 5-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to Paper #11, filed 21 February 2003. Claims 2 and 4 have been canceled. Applicant's amendment of claim 1 is acknowledged. Applicant's addition of new claims 5-7 is acknowledged. Claims 1, 3, and 5-7 are under examination.

Withdrawal of Objections and Rejections

2. The objections and/or rejections not explicitly restated or stated below are withdrawn.

Maintained Objections and Rejections

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3 are rejected under 35 U.S.C. 101 because the claimed invention lacks patentable utility. The above claims are directed to the nucleic acid sequence of SEQ ID NO: 1, which encodes the amino acid sequence of SEQ ID NO: 2. The nucleic acid above is disclosed as having utility as hybridization probes in screening libraries (page 5, line 2), to identify and characterize expression of a gene (page 5, line 29), to validate novel targets in drug discovery (page 6, line 29), or may be useful in encoding antisense molecules for the regulation of a gene (page 7, line 37). Similarly, the polypeptide encoded by the nucleic acid above is disclosed as having a probable utility as a therapeutic (page 13, line 29). Of the above uses, none provide a specific or substantial asserted utility or a well established utility. Basic research, such as

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studying the properties of the claimed product itself or the mechanisms in which the material is involved, such as gene expression, does not constitute specific or substantial utilities. The therapeutic utility disclosed in the specification teach the treatment of unspecified disease or condition. Specifically, the specification merely states that the nucleic acids may be used to screen collections of genetic material from patients who have a particular medical condition (page 7, line 2). Neither the specification nor the art of record disclose any diseases or conditions caused or exacerbated by the nucleic acid of SEQ ID NO: 1. The asserted utility in this case essentially is a method of screening an unspecified, undisclosed disease or condition, which does not define a "real world" context of use. Screening an unspecified, undisclosed disease or condition would require or constitute carrying out further research to identify or reasonably confirm a "real world" context of use.

Additionally, the use of the nucleic acid in the method of making a polypeptide that itself has no specific and substantial asserted or well established utility is itself not specific and substantial or well establish. The specification as filed does not disclose or provide any evidence that points to an activity for the protein and furthermore there is no art of record that discloses or suggests any activity for the claimed protein. The specification discloses the polypeptide of SEQ ID NO: 2 as having potential utility as a therapeutic (page 13, line 29). Further experimentation is required to identify a specific and substantial use for the polypeptide as only prophetic uses not yet evaluated are disclosed in the specification. Furthermore, the non-prophetic uses disclosed for the polypeptide, *e.g.* generating antibodies, do not show specific utility as this is a general use of all polypeptides.

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Thus, the claimed polynucleotide encoding protein is not supported by either a specific and substantial asserted utility or a well established utility as to the above because the specification fails to assert any well established utility for the protein and neither the specification as filed nor any art of record disclose or suggest any activity for the protein such that any utility would be well established for the protein.

4. Applicant's arguments filed 21 February 2003, have been fully considered but they are not persuasive. Applicant urges that the claimed nucleotide sequences have utility in assessing gene expression patterns on DNA chips (page 4, first para. of response), or may be used in determining the genomic structure of a chromosome (see page 5, second para. of response). This is not found persuasive because each of the above stated uses do not constitute a specific or substantial utility. The stated use of the nucleotide sequences are for purposes of basic research and not deemed a specific or substantial utility.

Applicant urges that claimed nucleotide sequences have utility as a protease as the claimed sequences share homology with the sequence defines as a ADAMTS protease. Applicant states the shared homology as nearly 100% identity over and extend region of the claimed sequence, and therefore indicates that the claimed sequence is a protease (see page 5, first para. of response). This is not found persuasive because "nearly 100% identity over and extend region" does not necessarily provide adequate support for the conclusion that the nucleotides sequence encodes a protease. For example, Vernet *et al.* (US 20030059768) teach a protein that shares 99.9% identity with the sequence of SEQ ID NO: 2 over the entire sequence.

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The protein is described as Vernet *et al.* as a STE20-like trypsin inhibitor, or an inhibitor of a protease (see attached sequence alignment and abstract).

The rejection under USC 101 is maintained. Newly added claims 5-7 do not correct the issue on lack of utility and are rejected in conjunction with claims 1 and 3 as stated above.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-3 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a specific and substantial asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

6. Applicant's arguments filed in Paper No: 11, have been fully considered but they are not persuasive. Applicant urges that the claimed nucleotide sequences have specific, substantial and credible utility. The is not found persuasive as claims 1, 3, and 5-7 are rejected under USC 101 for lack of utility as above. Therefore, the rejection under USC 112, first paragraph is maintained. Newly added claims 5-7 do not correct the issue on lack of utility and are rejected in conjunction with claims 1 and 3 as stated above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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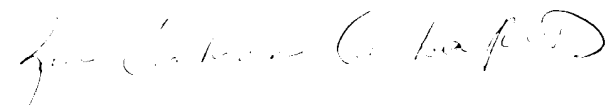
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheridan K Snedden whose telephone number is (703) 305-4843. The examiner can normally be reached on Monday - Friday, 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Low can be reached on (703) 308-2923. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-3975 for regular communications and (703) 746-3975 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

SKS
May 19, 2003


KAREN COCHRAN-CARLSON, PH.D.
PRIMARY EXAMINER

Score = 301 bits (152), Expect = 2e-78
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Strand = Plus Minus

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Query: 2429 ctcacaagtcctgtgtgcaggacagaactgtctctccacatttagctgtgggagactggtcga 2483
|||||
Sbjct: 73081 ctcacaagtcctgtgtgcaggacagaactgtctctccacatttagctgtgggagactggtcga 73022

Query: 2489 ag 2490
||
Sbjct: 73021 ag 73020

Score = 305 bits (154), Expect = 1e-79
Identities = 157/158 (99%)
Strand = Plus / Minus

Query: 803 ttattgaatcaaaaacacttcaaggaagcaaaaggagaaacacagctttaacagccccggcg 862
|||||
Sbjct: 145296 ttattgaatcaaaaacacttcaaggaagcaaaaggagaaacacagctttaacagccccggcg 145237

Query: 863 tctttgtcgtagaaaaacacaacagtgggaatttcagagggggtccgagaggcaaaactttta 922
|||||
Sbjct: 145236 tctttgtcgtagaaaaacacaacagtgggaatttcagagggggtccgagaggcaaaactttta 145177

Query: 923 agattccaggacctctgatggctgatttcattcttaag 960
|||||
Sbjct: 145176 agattccaggacctctgatggctgatttcattcttaag 145139

Score = 301 bits (152), Expect = 2e-78
Identities = 155/156 (99%)
Strand = Plus / Minus

Query: 2489 agtgttctgtcagttgtgggtgttggaaatccagagaagaaagcaggtgtgtcaaaggctgg 2543
|||||
Sbjct: 45620 agtgttctgtcagttgtgggtgttggaaatccagagaagaaagcaggtgtgtcaaaggctgg 45561

Query: 2549 cagccaaaaggtcggcgcatccccctcagtgagatgatgtgcaggggatctaccaggggtcc 2608
Sbjct: 45560 cagccaaaaggtcggcgcatccccctcagtgagatgatgtgcaggggatctaccaggggtcc 45501

Query: 2609 ctcttgtaagatcttggccagatgootgagtgagta 2644
Sbjct: 45500 ctcttgtaagatcttggccagatgootgagtgagta 45465

Score = 297 bits (150), Expect = 4e-77
Identities = 150/150 (100%)
Strand = Plus / Minus

Query: 1466 agtgcacagtgaacttggtggcggagggttaoggtacoggggtgttctgtgtattaaccacc 1525
Sbjct: 118242 agtgcacagtgaacttggtggcggagggttaoggtacoggggtgttctgtgtattaaccacc 118183

Query: 1526 ggggagagcatggttgggggtgcaatccacaaactgaagttacacatcaaagaagaatgtg 1585
Sbjct: 118182 ggggagagcatggttgggggtgcaatccacaaactgaagttacacatcaaagaagaatgtg 118123

Query: 1586 tcattcccatcccggtgttataaaacaaaaag 1615
Sbjct: 118122 tcattcccatcccggtgttataaaacaaaaag 118093

Score = 280 bits (141), Expect = 8e-72
Identities = 141/141 (100%)
Strand = Plus / Minus

Query: 1071 aggttatcagtcgaattctgtgaatgtgtggatatccggttgaagagggtagttcctga 1130
Sbjct: 125991 aggttatcagtcgaattctgtgaatgtgtggatatccggttgaagagggtagttcctga 125932

Query: 1131 ccattattgtcactactaccctgaaaatgtaaaacaaaaacaaaaactgaaggaatgcag 1190
Sbjct: 125931 ccattattgtcactactaccctgaaaatgtaaaacaaaaacaaaaactgaaggaatgcag 125872

Query: 1191 catggatccctgcccacaaag 1211
Sbjct: 125871 catggatccctgcccacaaag 125851

Score = 266 bits (134), Expect = 1e-67
Identities = 134/134 (100%)
Strand = Plus Minus

Query: 1985 agggccatcaagaagccatagcagtggtggttacatatccagaccagcagacagtcacatga 2045
|||||
Sbjct: 92200 agggccatcaagaagccatagcagtggtggttacatatccagaccagcagacagtcacatga 92141

Query: 2046 cagcttggtgtgatatgggtccacggtccagccatgagccagggcctgtaacacagagcc 2105
|||||
Sbjct: 92140 cagcttggtgtgatatgggtccacggtccagccatgagccagggcctgtaacacagagcc 92081

Query: 2106 ctgtccccccaggt 2119
|||
Sbjct: 92080 ctgtccccccaggt 92067

Score = 264 bits (133), Expect = 5e-67
Identities = 133/133 (100%)
Strand = Plus / Minus

Query: 3843 agaggcacctgtcatcttgtctgttgaaagaaatatcaccaaaccagagcacaccatct 3902
|||
Sbjct: 25018 agaggcacctgtcatcttgtctgttgaaagaaatatcaccaaaccagagcacaccatct 24959

Query: 3903 gtctgttgtggttgaggcatcgtggaggcagcccttgaggcaaacgtgacaatccgatg 3962
|||||
Sbjct: 24958 gtctgttgtggttgaggcatcgtggaggcagcccttgaggcaaacgtgacaatccgatg 24899

Query: 3963 tcctgtaaaaggt 3975
|||
Sbjct: 24898 tcctgtaaaaggt 24886

Score = 254 bits (128), Expect = 5e-64
Identities = 128/128 (100%)
Strand = Plus / Minus

Query: 3717 aataattttggatggaactgggaagatacagatacagaattctacaaggaaagaacaagg 3776
|||||
Sbjct: 27411 aataattttggatggaactgggaagatacagatacagaattctacaaggaaagaacaagg 27352

Query: 3777 catatatgaatgttctgtagctaatacatcttggttcagatgtggaaagttcttctgtgct 3836
|||||
Sbjct: 27351 catatatgaatgttctgtagctaatacatcttggttcagatgtggaaagttcttctgtgct 27292

Query: 3837 gtatgcag 3844

Sbjct: 27291 gtatgcag 27284

Score = 230 bits (116), Expect = 7e-57
Identities = 116/116 (100%)
Strand = Plus / Minus

Query: 959 agaccagggtacactgcagccaaagacagcgtgggttcagttcttttttaccagcccatca 1018

Sbjct: 130999 agaccagggtacactgcagccaaagacagcgtgggttcagttcttttttaccagcccatca 130940

Query: 1019 gtcattcagtgagacaaaactgacttcttttccctgcactgtgacgtgtggaggaggt 1074

Sbjct: 130939 gtcattcagtgagacaaaactgacttcttttccctgcactgtgacgtgtggaggaggt 130884

Score = 176 bits (89), Expect = 9e-41
Identities = 89/89 (100%)
Strand = Plus / Minus

Query: 1614 agaaaaaagtccagtggaagcaaaattgccttggtgaaacaagcacaagaactagaaga 1673

Sbjct: 116453 agaaaaaagtccagtggaagcaaaattgccttggtgaaacaagcacaagaactagaaga 116394

Query: 1674 gaccagaatagcaacagaagaaccaacgt 1702

Sbjct: 116393 gaccagaatagcaacagaagaaccaacgt 116365

Score = 149 bits (75), Expect = 2e-32
Identities = 75/75 (100%)
Strand = Plus / Minus

Query: 728 gagaagaaaatgtaattgctgttcctttgggaagtcgaagtgtgagaattacagtgaaag 787

Sbjct: 157331 gagaagaaaatgtaattgctgttcctttgggaagtcgaagtgtgagaattacagtgaaag 157272

Query: 788 gacctgccacctct 802

Sbjct: 157271 gacctgccacctct 157257

Score = 105 bits (53), Expect = 3e-19
Identities = 53/53 (100%)
Strand = Plus / Minus

Query: 1210 agtgatggatttaaagagataatgccttatgaccacttccaaacctcttctctcg 1262
|||||
Sbjct: 124771 agtgatggatttaaagagataatgccttatgaccacttccaaacctcttctctcg 124719

>AC116157.3.1.75612
Length = 75612

Score = 547 bits (276), Expect = e-152
Identities = 285/283 (98%)
Strand = Plus / Minus

Query: 1701 gttcattccagaacctctggtcagcctgcagtagccaagtggtgggcagggtgtgcagggtccg 1760
|||||
Sbjct: 4263 gttcattccagaacctctggtcagcctgcagtagccaagtggtgggcagggtgtgcagggtccg 4209

Query: 1761 cgagggtgaagtgcctgtgtgtctctcacattcacgcagactgagaactgagctgcccagagga 1820
|||||
Sbjct: 4208 tgagggtgaagtgcctgtgtgtctctcacattcacgcagactgagaactgagctgcccagagga 4149

Query: 1821 agagtgtgaaggccccaagctgcccacccaagcgccctgcctctctggaagcatgtgatga 1880
|||||
Sbjct: 4148 agagtgtgaaggccccaagctgcccacccaagcgccctgcctctctggaagcatgtgatga 4089

Query: 1881 gagcccggtctcccgagagctagacatccctctccctgaggacagtggagacgacttacga 1940
|||||
Sbjct: 4088 gagcccggtctcccgagagctagacatccctctccctgaggacagtggagacgacttacga 4029

Query: 1941 ctgggagtagctgggttcaccccttgacacagcaacatgcttgggagg 1988
|||||
Sbjct: 4028 ctgggagtagctgggttcaccccttgacacagcaacatgcttgggagg 3981

Score = 408 bits (206), Expect = e-110
Identities = 206/206 (100%)
Strand = Plus / Minus

Query: 1262 gctgggaacataatccttggactgcatgttccgtgtctgtggaggagggttcagagac 1321
|||||
Sbjct: 24689 gctgggaacataatccttggactgcatgttccgtgtctgtggaggagggttcagagac 24630

Query: 1322 ggagctttgtgtgtgtagaggaatccatgcatggagagatattgcaggtggaagaatgga 1381
|||||
Sbjct: 24629 ggagctttgtgtgtgtagaggaatccatgcatggagagatattgcaggtggaagaatgga 24570

Query: 1382 agtgcacgtacgcaccccaaaaccaagggttatgcaaaacttgtaatatgtttgattgcccc 1441
Sbjct: 24569 agtgcacgtacgcaccccaaaaccaagggttatgcaaaacttgtaatatgtttgattgcccc 24510

Query: 1442 agtggattgcccattggagtggtctcag 1467
Sbjct: 24509 agtggattgcccattggagtggtctcag 24484

Score = 305 bits (154), Expect = 1e-79
Identities = 157/158 (99%)
Strand = Plus / Minus

Query: 803 ttattgaatcaaaaaacacttcaaggaagcaaaggagaaacacagctttaacagccccggcg 862
Sbjct: 46577 ttattgaatcaaaaaacacttcaaggaagcaaaggagaaacacagctttaacagccccggcg 46518

Query: 863 tctttgtcgtagaaaaacacaacagtgggaatttcagaggggctccgagaggcaaactttta 922
Sbjct: 46517 tctttgtcgtagaaaaacacaacagtgggaatttcagaggggctccgagaggcaaactttta 46458

Query: 923 agattccaggacctctgatggctgatttcattctcaag 960
Sbjct: 46457 agattccaggacctctgatggctgatttcattctcaag 46420

Score = 297 bits (150), Expect = 4e-77
Identities = 150/150 (100%)
Strand = Plus / Minus

Query: 1456 agtgcacagtgaacttggtggccgaggggttacggtaaccgggtgttctgtgtattaaccacc 1525
Sbjct: 19516 agtgcacagtgaacttggtggccgaggggttacggtaaccgggtgttctgtgtattaaccacc 19457

Query: 1526 gcggagagcatgttggtggggctgcaatccacaactgaagttacacatcaaagaagaatgtg 1585
Sbjct: 19456 gcggagagcatgttggtggggctgcaatccacaactgaagttacacatcaaagaagaatgtg 19397

Query: 1586 tcattcccatcccgtgttataaaacaaaag 1615
Sbjct: 19396 tcattcccatcccgtgttataaaacaaaag 19367

Score = 280 bits (141), Expect = 8e-72
Identities = 141/141 (100%)
Strand = Plus Minus

Query: 1071 aggttatcaggtcaattctgctgaatgtgtggatatccgcttgaagagggtagttcctga 1130
|||||
Sbjct: 27265 aggttatcaggtcaattctgctgaatgtgtggatatccgcttgaagagggtagttcctga 27206

Query: 1131 ccattattgtcactactaccctgaaaatgtaaaacccaaacccaaactgaaggaatgcag 1190
|||||
Sbjct: 27205 ccattattgtcactactaccctgaaaatgtaaaacccaaacccaaactgaaggaatgcag 27146

Query: 1191 catggatccctgcccataag 1211
|||||
Sbjct: 27145 catggatccctgcccataag 27125

Score = 230 bits (116), Expect = 7e-57
Identities = 116/116 (100%)
Strand = Plus / Minus

Query: 959 agaccaggtacactgcagccaaagacagcgtggttcagttcttcttttaccagcccatca 1018
|||||
Sbjct: 32273 agaccaggtacactgcagccaaagacagcgtggttcagttcttcttttaccagcccatca 32214

Query: 1019 gtcacagtgaggagacaaactgacttctttccctgcaactgtgacgtgtggaggaggt 1074
|||||
Sbjct: 32213 gtcacagtgaggagacaaactgacttctttccctgcaactgtgacgtgtggaggaggt 32158

Score = 176 bits (89), Expect = 9e-41
Identities = 89/89 (100%)
Strand = Plus / Minus

Query: 1614 agaaaaaagtccagtggaagcaaaattgccttggtgaaacaagcacaagaactagaaga 1673
|||||
Sbjct: 17727 agaaaaaagtccagtggaagcaaaattgccttggtgaaacaagcacaagaactagaaga 17668

Query: 1674 gaccagaatagcaacagaagaaccaacgt 1702
|||||
Sbjct: 17667 gaccagaatagcaacagaagaaccaacgt 17639

Score = 149 bits (75), Expect = 2e-32
Identities = 75/75 (100%)
Strand = Plus / Minus

Query: 726 gagaagaaaatgtaattgctgttcctttgggaagtcgaagtgagagaattacagtgaaag 787
|||||
Sbjct: 58420 gagaagaaaatgtaattgctgttcctttgggaagtcgaagtgagagaattacagtgaaag 58561

Query: 788 gacctgccacacct 802
|||||
Sbjct: 58560 gacctgccacacct 58546

Score = 105 bits (53), Expect = 3e-19
Identities = 53/53 (100%)
Strand = Plus / Minus

Query: 1210 agtgatggatttaaagagataatgcctatgaccacttccaaacctcttctcgc 1262
|||||
Sbjct: 26045 agtgatggatttaaagagataatgcctatgaccacttccaaacctcttctcgc 25993

>AC116157.3.94489.171225
Length = 76737

Score = 472 bits (238), Expect = e-129
Identities = 238/238 (100%)
Strand = Plus / Minus

Query: 364 gactgccctccagatgcagaagatttcagagcccagcagtgctcagcctacaatgatgtc 423
|||||
Sbjct: 3187 gactgccctccagatgcagaagatttcagagcccagcagtgctcagcctacaatgatgtc 3128

Query: 424 cagtatcaggggcattactatgaatggcttccacgatataatgatcctgctgccccgtgt 483
|||||
Sbjct: 3127 cagtatcaggggcattactatgaatggcttccacgatataatgatcctgctgccccgtgt 3068

Query: 484 gcactcaagtgtcatgcacaaaggacaaaacttggtgggtggagctggcacctaaggtactg 543
|||||
Sbjct: 3067 gcactcaagtgtcatgcacaaaggacaaaacttggtgggtggagctggcacctaaggtactg 3008

Query: 544 gatggaactcggttgaacacgggactccttggacatgtgtatcagtgggcatctgtcagg 601
|||||
Sbjct: 3007 gatggaactcggttgaacacgggactccttggacatgtgtatcagtgggcatctgtcagg 2950

Score = 260 bits (131), Expect = 8e-66
Identities = 131/131 (100%)
Strand = Plus Minus

Query: 188 agacctcaagaaacactcggttcagatgaagacaaagatggcaactgggatgcttggggcg 247
|||||
Sbjct: 49522 agacctcaagaaacactcggttcagatgaagacaaagatggcaactgggatgcttggggcg 49463

Query: 248 actggagtgactgctcccggaacctgtgggggaggagcatcatattctctgctggagatgtt 307
|||||
Sbjct: 49462 actggagtgactgctcccggaacctgtgggggaggagcatcatattctctgctggagatgtt 49403

Query: 308 tgactggaagg 318
|||||
Sbjct: 49402 tgactggaagg 49392

Score = 97.6 bits (49), Expect = 7e-17
Identities = 49/49 (100%)
Strand = Plus / Minus

Query: 316 aggaattgtgaagggcagaaacattcggtacaagacatgcagcaatcatg 364
|||||
Sbjct: 18372 aggaattgtgaagggcagaaacattcggtacaagacatgcagcaatcatg 18324

>AC116157.3.75713.94387
Length = 18675

Score = 260 bits (131), Expect = 8e-66
Identities = 131/131 (100%)
Strand = Plus / Minus

Query: 598 caggcagtgggctgcgatcggcaactgggaagcaatgccaggaggacaactgtggagtc 657
|||||
Sbjct: 3634 caggcagtgggctgcgatcggcaactgggaagcaatgccaggaggacaactgtggagtc 3575

Query: 658 tgtgccggcgatggctccacctgcaggcttgtacggggacaatcaaagtcacacgtttct 717
|||||
Sbjct: 3574 tgtgccggcgatggctccacctgcaggcttgtacggggacaatcaaagtcacacgtttct 3515

Query: 718 cctgaaaaaag 728
|||||
Sbjct: 3514 cctgaaaaaag 3504

>AC087738.10.149851.181632
Length = 31782

Score = 244 bits (123), Expect = 5e-61
Identities = 123/123 (100%)
Strand = Plus / Plus

Query: 67 cagaccacagctgagaaatctctctggagcctatttctctcccgagtttgcactttctct 126
|||||
Sbjct: 9168 cagaccacagctgagaaatctctctggagcctatttctctcccgagtttgcactttctct 9227

Query: 127 caggggaagttttctggaagacacaacaggggagcagttctctcacttatcgctatgatgac 186
|||||
Sbjct: 9228 caggggaagttttctggaagacacaacaggggagcagttctctcacttatcgctatgatgac 9287

Query: 187 cag 189
|||
Sbjct: 9288 cag 9290

>AC087738.10.1.149750
Length = 149750

Score = 137 bits (69), Expect = 8e-29
Identities = 69/69 (100%)
Strand = Plus / Plus

Query: 1 atggcttctctggacgagccctgggtgggtgctgatagggatgggtcttcatgcactctccc 60
|||||
Sbjct: 110273 atggcttctctggacgagccctgggtgggtgctgatagggatgggtcttcatgcactctccc 110332

Query: 61 ctcccgcag 69
|||||
Sbjct: 110333 ctcccgcag 110341

>AC017807.6.1.181327

Length = 181327

Score = 2117 bits (1058), Expect = 0.0

Identities = 1071/1072 (99%)

Strand = Plus Minus

```
Query: 2645 aaatcaaatcagagatgaagacaaaaacttggtgagcaggggtcgcagatcctcagtgctc 2704
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 104240 aaatcaaatcagagatgaagacaaaaacttggtgagcaggggtcgcagatcctcagtgctc 104181

Query: 2705 agagagttctacattcagacaagggaagagaagcgtattaacctgaccttggttagcagag 2764
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 104180 agagagttctacattcagacaagggaagagaagcgtattaacctgaccttggttagcagag 104121

Query: 2765 cctattttgctgccccaacacatcogtgattattaagtgcctcgtgcgacgattccagaaat 2824
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 104120 cctattttgctgccccaacacatcogtgattattaagtgcctcgtgcgacgattccagaaat 104061

Query: 2825 cctctgatccagtgaggagaaaggatggcctgttgctgcagaactccaaaacgggttgccatca 2884
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 104060 cctctgatccagtgaggagaaaggatggcctgttgctgcagaactccaaaacgggttgccatca 104001

Query: 2885 ccaagtcagggtcactaaaaatccacgggtctttgctgcccccgacatcggcgtgtaccggt 2944
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 104000 ccaagtcagggtcactaaaaatccacgggtctttgctgcccccgacatcggcgtgtaccggt 103941

Query: 2945 gcattgcagggtctctgcacaggaaaacagttgtgtctcaagctcatttggtactgacaacccggc 3004
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 103940 gcattgcagggtctctgcacaggaaaacagttgtgtctcaagctcatttggtactgacaacccggc 103881

Query: 3005 tcctgcacgcccagccctcagggagcctatgaggggaatatcctgggatggaccacagcg 3064
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 103880 tcctgcacgcccagccctcagggagcctatgaggggaatatcctgggatggaccacagcg 103821

Query: 3065 aagccaatagtttgggagtcacatggcacaaaatgaggcaaatgtggaataacaaaaaatg 3124
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 103820 aagccaatagtttgggagtcacatggcacaaaatgaggcaaatgtggaataacaaaaaatg 103761

Query: 3125 acctttatctggatgatgaccacattagtaaccagcctttcttgagagctctgttaggcc 3184
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 103760 acctttatctggatgatgaccacattagtaaccagcctttcttgagagctctgttaggcc 103701

Query: 3185 actgcagcaattctgcaggaagcaccaactcctgggagttgaagaataagcagtttgaag 3244
          ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
Sbjct: 103700 actgcagcaattctgcaggaagcaccaactcctgggagttgaagaataagcagtttgaag 103641
```


Query: 3245 cagcagtttaaaacaaggagcatatagcatggatagacccagtttgatgagotgataagaa 3304
|||||
Sbjct: 103640 cagcagtttaaaacaaggagcatatagcatggatagacccagtttgatgagotgataagaa 103581

Query: 3305 acatgagtcagtcacatggaaaacggagaggtcagcgatgatottgggtcccagotgatat 3364
|||||
Sbjct: 103580 acatgagtcagtcacatggaaaacggagaggtcagcgatgatottgggtcccagotgatat 103521

Query: 3365 atcagctggtggtgcgaattagccaaggcagcagcaaacacacatgcagtggtggggggcatcc 3424
|||||
Sbjct: 103520 atcagctggtggtgcgaattagccaaggcagcagcaaacacacatgcagtggtggggggcatcc 103461

Query: 3425 aggaagagacacctcctgtgtgtcagctcagaggggaaaacagggagtgtgtcccaaaagct 3484
|||||
Sbjct: 103460 aggaagagacacctcctgtgtgtcagctcagaggggaaaacagggagtgtgtcccaaaagct 103401

Query: 3485 cgcctgcacaaaaactcaggcaagctgacattcaagccgaaaaggacctgttctcatgaggc 3544
|||||
Sbjct: 103400 cgcctgcacaaaaactcaggcaagctgacattcaagccgaaaaggacctgttctcatgaggc 103341

Query: 3545 aaagccaaacctccctcaatttcatttaataaaaacaataaattccaggattggaaatacag 3604
|||||
Sbjct: 103340 aaagccaaacctccctcaatttcatttaataaaaacaataaattccaggattggaaatacag 103281

Query: 3605 tatacattacaaaaaggacagaggtcatcaatatactgtgtgaaccttattacccccagtg 3664
|||||
Sbjct: 103280 tatacattacaaaaaggacagaggtcatcaatatactgtgtgaaccttattacccccagtg 103221

Query: 3665 aggccacatatacatggaccaaggatggaaaccttggttacagccctcagtaaa 3716
|||||
Sbjct: 103220 aggccacatatacatggaccaaggatggaaaccttggttacagccctcagtaaa 103169

Score = 547 bits (276), Expect = e-152
Identities = 285/288 (99%)
Strand = Plus / Minus

Query: 1701 gttcattccagaacctgtggtcagcctgcagtagccaacgtgtggggccaggtgtgcaggtccg 1760
|||||
Sbjct: 173421 gttcattccagaacctgtggtcagcctgcagtagccaacgtgtggggccaggtgtgcaggtccg 173362

Query: 1761 cgaggtgaagtgcctgtgtgtcctccacattcacgcagactgagactgagctgcccagga 1820
|||||
Sbjct: 173361 tgaggtgaagtgcctgtgtgtcctccacattcacgcagactgagactgagctgcccagga 173302

Query: 1821 agagtgtgaaggcccccaagctgcccacgcgaacggccctgctcctggaagcatgtgatga 1880
|||||
Sbjct: 173301 agagtgtgaaggcccccaagctgcccacgcgaacggccctgctcctggaagcatgtgatga 173242

Query: 1881 gagcggggcctcccgagagctagacatccctctccctgaggacagtgagacgacttacga 1940
|||||
Sbjct: 173241 gagcggggcctcccgagagctagacatccctctccctgaggacagtgagacgacttacga 173182

Query: 1941 ctggggagtaagctgggttcaccccttgacacagcaacatgcttggggagg 1988
|||||
Sbjct: 173181 ctggggagtaagctgggttcaccccttgacacagcaacatgcttggggagg 173134

Score = 432 bits (218), Expect = e-118
Identities = 218/218 (100%)
Strand = Plus / Minus

Query: 4753 agacccaccttaagaaggaaactgcacatcaggggctgtgatgtgtgttggcacacaggc 4811
|||||
Sbjct: 49742 agacccaccttaagaaggaaactgcacatcaggggctgtgatgtgtgttggcacacaggc 49683

Query: 4813 ccttggaagccctgtacagcagcctgtggcaggggtttccagtcctcggaagtcgactgt 4872
|||||
Sbjct: 49682 ccttggaagccctgtacagcagcctgtggcaggggtttccagtcctcggaagtcgactgt 49623

Query: 4873 atccacacaaggagttgcaaacctgtggccaagagacactgtgtacagaaaaagaaacca 4932
|||||
Sbjct: 49622 atccacacaaggagttgcaaacctgtggccaagagacactgtgtacagaaaaagaaacca 49563

Query: 4933 atttccctggggcactgtcttggggccctcctgtgatag 4970
|||||
Sbjct: 49562 atttccctggggcactgtcttggggccctcctgtgatag 49525

Score = 398 bits (201), Expect = e-107
Identities = 201/201 (100%)
Strand = Plus / Minus

Query: 4456 aggtgggttcacaagtgtgtgggtcacagtgtctgtgtcttgcggtgaaggataccacagt 4515
|||||
Sbjct: 61277 aggtgggttcacaagtgtgtgggtcacagtgtctgtgtcttgcggtgaaggataccacagt 61218

Query: 4516 cggcaggtgacgtgcaagcggacaaaagccaatggaactgtgcaggtggtgtctccaaga 4575
|||||
Sbjct: 61217 cggcaggtgacgtgcaagcggacaaaagccaatggaactgtgcaggtggtgtctccaaga 61158

Query: 4576 gcatgtgccccctaaagaccggcctctgggaagaaaaccatgttttggtcatccatgtgtt 4635
|||||
Sbjct: 61157 gcatgtgccccctaaagaccggcctctgggaagaaaaccatgttttggtcatccatgtgtt 61098

Query: 4636 cagtgggaaccaggggaaccgg 4656
|||||
Sbjct: 61077 cagtgggaaccaggggaaccgg 61077

Score = 387 bits (195), Expect = e-104
Identities = 195/195 (100%)
Strand = Plus / Minus

Query: 2116 aggtggcatgtgggctcttggggggccctgctcagctacctgtggagttggaattcagacc 2175
|||||
Sbjct: 143919 aggtggcatgtgggctcttggggggccctgctcagctacctgtggagttggaattcagacc 143860

Query: 2176 cgagatgtgtactgcctgcacccaggggagaccctgcccctcctgaggagtgcagagat 2235
|||||
Sbjct: 143859 cgagatgtgtactgcctgcacccaggggagaccctgcccctcctgaggagtgcagagat 143800

Query: 2236 gaaaagcccatgctttacaagcatgcaatcagtttgactgcctcctggctggcacatt 2295
|||||
Sbjct: 143799 gaaaagcccatgctttacaagcatgcaatcagtttgactgcctcctggctggcacatt 143740

Query: 2296 gaagaatggcagcag 2310
|||||
Sbjct: 143739 gaagaatggcagcag 143725

Score = 373 bits (188), Expect = e-100
Identities = 188/188 (100%)
Strand = Plus / Minus

Query: 4272 agagcctttttgggagcctggtaactggtcacattgtttctgccacctgtggtcatttggg 4331
|||||
Sbjct: 65105 agagcctttttgggagcctggtaactggtcacattgtttctgccacctgtggtcatttggg 65046

Query: 4332 agcccgcattcagagaccccagtggtgtgatggccaatgggcaggaagtgagtgagggcct 4391
|||||
Sbjct: 65045 agcccgcattcagagaccccagtggtgtgatggccaatgggcaggaagtgagtgagggcct 64986

Query: 4392 gtgtgatcacctccagaagccactggctgggtttgagccctgtaacatccgggactgcc 4451
|||||
Sbjct: 64985 gtgtgatcacctccagaagccactggctgggtttgagccctgtaacatccgggactgcc 64926

Query: 4452 agcgaggt 4459
|||||
Sbjct: 64925 agcgaggt 64918

Score = 371 bits (137), Expect = 3e-99
Identities = 187/187 (100%)
Strand = Plus Minus

Query: 3970 aaaggtgtccctcagcctaataataaacttggttgaagagaggaggatctctgagtggcaat 4029
|||||
Sbjct: 71975 aaaggtgtccctcagcctaataataaacttggttgaagagaggaggatctctgagtggcaat 71916

Query: 4030 gttcccttgctttttcaatggatccctgtgtgtgcagaatgtttcccttgaaaatgaagga 4089
|||||
Sbjct: 71915 gttcccttgctttttcaatggatccctgtgtgtgcagaatgtttcccttgaaaatgaagga 71856

Query: 4090 acctagctctgcatagccaccaatgctcttggaaaggcagtggaacatctgtactccac 4149
|||||
Sbjct: 71855 acctagctctgcatagccaccaatgctcttggaaaggcagtggaacatctgtactccac 71796

Query: 4150 ttgctgg 4156
|||||
Sbjct: 71795 ttgctgg 71739

Score = 361 bits (182), Expect = 3e-96
Identities = 182/182 (100%)
Strand = Plus / Minus

Query: 2309 agtgttccaggacttgtggcgggggaactcagaacagaagagtcacctgtcggcagctgc 2368
|||||
Sbjct: 143612 agtgttccaggacttgtggcgggggaactcagaacagaagagtcacctgtcggcagctgc 143553

Query: 2369 taacggatggcagctttttgaatctctcagatgaattgtgccaaaggacccaaggcatcgt 2428
|||||
Sbjct: 143552 taacggatggcagctttttgaatctctcagatgaattgtgccaaaggacccaaggcatcgt 143493

Query: 2429 ctcacaagtcctgtgccaggacagactgtctccacatttagctgtgggagactggctga 2488
|||||
Sbjct: 143492 ctcacaagtcctgtgccaggacagactgtctccacatttagctgtgggagactggctga 143433

Query: 2489 ag 2490
||
Sbjct: 143432 ag 143431

>AF237652 ACCESSION:AF237652 NID: gi_13183077 gb AF237652.1 AF237652
 Homo sapiens a disintegrin-like and metalloprotease
 domain with thrombospondin type I motifs-like 3
 (ADAMTSL3) mRNA, partial cds
 Length: 2523

Identities = 761/766 (99%), Positives = 765/766 (99%)

Query: 1 MASWTSPWVVLIGMVFMRHSPLEPQTIAEKSPGAYFLPEFALSPQGSFLEDITGEGFLTYRY 60
 MASWTSPWVVLIGMVFMRHSPLEPQTIAEKSPGAYFLPEFALSPQGSFLEDITGEGFLTYRY
 Sbjct: 225 MASWTSPWVVLIGMVFMRHSPLEPQTIAEKSPGAYFLPEFALSPQGSFLEDITGEGFLTYRY 404

Query: 61 DDQTSRNTSRDEEDKGNWDAGDWSICSRDTGGGASYSLLRROLTGRNCEGQNIIFYKTCSN 120
 DDQTSRNTSRDEEDKGNWDAGDWSICSRDTGGGASYSLLRROLTGRNCEGQNIIFYKTCSN
 Sbjct: 405 DDQTSRNTSRDEEDKGNWDAGDWSICSRDTGGGASYSLLRROLTGRNCEGQNIIFYKTCSN 584

Query: 121 HDQPPDAEDFFRAQQCSAYNDVQYQGHYEWLPRYNI PAAPCALHCHAQGNLWELAPKV 180
 HDQPPDAEDFFRAQQCSAYNDVQYQGHYEWLPRYNI PAAPCALHCHAQGNLWELAPKV
 Sbjct: 585 HDQPPDAEDFFRAQQCSAYNDVQYQGHYEWLPRYNI PAAPCALHCHAQGNLWELAPKV 764

Query: 181 LDGTECHTDSLDMCISGICQAVGCDPQLGSHAKEDNOGVCAGDGSTORLVRGQSKSHVSP 240
 LDGTECHTDSLDMCISGICQAVGCDPQLGSHAKEDNOGVCAGDGSTORLVRGQSKSHVSP
 Sbjct: 765 LDGTECHTDSLDMCISGICQAVGCDPQLGSHAKEDNOGVCAGDGSTORLVRGQSKSHVSP 944

Query: 241 EKREELNVIAPVDSRSVFLTVKGPALHLFIESKTLQGSKGESFNSPGVFWENTTVEFQR 300
 EKREELNVIAPVDSRSVFLTVKGPALHLFIESKTLQGSKGESFNSPGVFWENTTVEFQR
 Sbjct: 945 EKREELNVIAPVDSRSVFLTVKGPALHLFIESKTLQGSKGESFNSPGVFWENTTVEFQR 1124

Query: 301 GSERQTFKIPGFLMADFIFKTRFYTAANDSVWQFFFYQPI SHQWRQTDFFPCTVTGCGGYQ 360
 GSERQTFKIPGFLMADFIFKTRFYTAANDSVWQFFFYQPI SHQWRQTDFFPCTVTGCGGYQ
 Sbjct: 1125 GSERQTFKIPGFLMADFIFKTRFYTAANDSVWQFFFYQPI SHQWRQTDFFPCTVTGCGGYQ 1304

Query: 361 LNSAECVDIRLHRLVVPDHYCHYYPENVKPHPKLKECSDPSCPSSDGFKELIMPYDHFQPLP 420
 LNSAECVDIRLHRLVVPDHYCHYYPENVKPHPKLKECSDPSCPSSDGFKELIMPYDHFQPLP
 Sbjct: 1305 LNSAECVDIRLHRLVVPDHYCHYYPENVKPHPKLKECSDPSCPSSDGFKELIMPYDHFQPLP 1484

Query: 421 RWEHNFWTACSVSCGGGIQRRSFVQVVEESMHGEILQVEEWKQMYAPKPKHMQTQCNLFDCP 480
 RWEHNFWTACSVSCGGGIQRRSFVQVVEESMHGEILQVEEWKQMYAPKPKHMQTQCNLFDCP
 Sbjct: 1485 RWEHNFWTACSVSCGGGIQRRSFVQVVEESMHGEILQVEEWKQMYAPKPKHMQTQCNLFDCP 1664

Query: 481 KWIAMWSQCTVTTCGRGLFYRVVLDCINHRGEHVGGNPQLKLHIKEECVPIPIQYKPKKEK 540
 KWIAMWSQCTVTTCGRGLFYRVVLDCINHRGEHVGGNPQLKLHIKEECVPIPIQYKPKKEK
 Sbjct: 1665 KWIAMWSQCTVTTCGRGLFYRVVLDCINHRGEHVGGNPQLKLHIKEECVPIPIQYKPKKEK 1844

Query: 541 SPVEAKLPWLKQAQLEETRIATEEPTFIPEPWSACSTTCGPGVQVFEVHCORVLLTFTQT 600
 SPVEAKLPWLKQAQLEETRIATEEPTFIPEPWSACSTTCGPGVQVFEVHCORVLLTFTQT
 Sbjct: 1845 SPVEAKLPWLKQAQLEETRIATEEPTFIPEPWSACSTTCGPGVQVFEVHCORVLLTFTQT 2024

Query: 601 ETELPERECEGPKLPTEFPCLLEACDESPASRELDIPLPEDSETTYDWEYAGFTPCTATC 660
 ETELPERECEGPKLPTEFPCLLEACDESPASRELDIPLPEDSETTYDWEYAGFTPCTATC
 Sbjct: 2025 ETELPERECEGPKLPTEFPCLLEACDESPASRELDIPLPEDSETTYDWEYAGFTPCTATC 2204

Query: 661 LGGHQEAIAVCLHIQTQQTVNDSLCDMVHRPPAMSQAQNTPECPPRWHVGSWGPCSATCG 720
 LGGHQEAIAVCLHIQTQQTVNDSLCDMVHRPPAMSQAQNTPECPPRWHVGSWGPCSATCG
 Sbjct: 2205 LGGHQEAIAVCLHIQTQQTVNDSLCDMVHRPPAMSQAQNTPECPPRWHVGSWGPCSATCG 2384

Query: 721 VGIQTRDVYCLHPGETPAPPEECRDEKPHALQACNQFDQPPGWHIE 766
 VGIQTRDVYCLHPGETPAPPEECRDEKPHALQACNQFDQPPGWHIE
 Sbjct: 2385 VGIQTRDVYCLHPGETPAPPEECRDEKPHALQACNQFDQPPGWHIE 2522